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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/784,102	02/20/2004	Vidyadhar Sitaram Kale	0025-013	6911

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EXAMINER

DURNFORD GESZVAIN, DILLON

ART UNIT PAPER NUMBER

2622

DATE MAILED: 11/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/784,102	KALE ET AL.	
	Examiner	Art Unit	
	Dillon Durnford-Geszvain	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim **27** is objected to because of the following informalities: in line 1 "An camera" should be --**A** camera--. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims **1-28** and **30-39** rejected under 35 U.S.C. 102(e) as being anticipated by US 7,009,654 (Kuno et al.).

As to claim **1**, Kuno et al. teaches a camera module apparatus, comprising: a camera integrated circuit chip 1 (see Fig. 1); a lens 3; and a molding 4 formed on the integrated circuit chip for holding the lens 3 such that the lens is positioned thereby in relation to the integrated circuit chip (see Fig. 1).

As to claim **2**, see the rejection of claim **1** and note that Kuno et al. further teaches the camera module apparatus of claim **1**, wherein: the camera integrated circuit

chip 1 is mounted on a printed circuit board 2 (see Fig. 1).

As to claim 3, see the rejection of claim 1 and note that Kuno et al. further teaches the camera module apparatus of claim 1, further comprising: a protective cover 7 over the integrated circuit chip 1(see Fig. 1).

As to claim 4, see the rejection of claim 1 and note that Kuno et al. further teaches the camera module apparatus of claim 3, wherein: the protective cover 7 is a molded spacer (see Fig. 1 and note that 7 is a spacer between the molding 4 and the integrated circuit 1).

As to claim 5, see the rejection of claim 3 and note that Kuno et al. further teaches the camera module apparatus of claim 3, wherein: the protective cover 7 is a glass sheet (see Column 6 lines 5-9).

As to claim 6, see the rejection of claim 1 and note that Kuno et al. further teaches the camera module apparatus of claim 1, wherein: the molding 4 has a recess for receiving the lens 3 (see Fig. 1 and note that the bottom of lens 3 intrudes into the opening in the molding 4).

As to claim 7, see the rejection of claim 1 and note that Kuno et al. further teaches the camera module apparatus of claim 1, wherein: the lens 3 is held in place on

the molding 4 by an adhesive (see Column 6 lines 41-44).

As to claim 8, see the rejection of claim 1 and note that Kuno et al. further teaches the camera module apparatus of claim 1, wherein: the molding 4 has a recess for positioning the lens 3 relative to the integrated circuit chip 1 (see Figs. 1 and 4 and note that recess between contact surfaces 4c in which the bottom of the lens is fitted into).

As to claim 9, Kuno et al. teaches an integrated camera circuit 1 and lens module 3, comprising: a camera integrated circuit 1; and a lens assembly 3; and wherein the lens assembly 3 is affixed (via 4) to the integrated circuit 1 (see Fig. 4).

As to claim 10, see the rejection of claim 9 and note that Kuno et al. further teaches the integrated camera circuit and lens module of claim 9, wherein: the lens assembly 3 is rigidly affixed to the integrated circuit 1 such that there is a gap between at least a portion of the lens assembly and a sensor array of the integrated circuit (see Figs. 1 and 4).

As to claim 11, see the rejection of claim 9 and note that Kuno et al. further teaches the integrated camera circuit and lens module of claim 9, wherein: the lens assembly 3 is attached to the integrated circuit 1 by a molded component 4 (see Figs. 1 and 4).

As to claim **12**, see the rejection of claim **11** and note that Kuno et al. further teaches the integrated camera circuit and lens module of claim **11**, wherein: the lens assembly 3 is attached to the molding 4 by an adhesive (Column 6 lines 41-44).

As to claim **13**, see the rejection of claim **9** and note that Kuno et al. further teaches the integrated camera circuit and lens module of claim **9**, wherein: the integrated circuit 1 is mounted on a circuit board 2 (see Fig. 1).

As to claim **14**, see the rejection of claim **9** and note that Kuno et al. further teaches the integrated camera circuit and lens module of claim **9**, further comprising: a protective cover 7 over the integrated circuit chip 1 (see Fig. 1).

As to claim **15**, see the rejection of claim **14** and note that Kuno et al. further teaches the integrated camera circuit and lens module of claim **14**, wherein: the protective cover 7 is a molded spacer (see Fig. 1 and note that 7 is a spacer between the molding 4 and the integrated circuit 1).

As to claim **16**, see the rejection of claim **14** and note that Kuno et al. further teaches the integrated camera circuit and lens module of claim **14**, wherein: the protective cover 7 is a glass sheet (Column 6 lines 5-9).

As to claim **17**, Kuno et al. teaches a method for producing a camera module, comprising: molding a receptacle **4** over an integrated circuit **1**; inserting a lens assembly **3** into the receptacle **4**; and securing the lens assembly into the receptacle (Column 6 lines 41-44).

As to claim **18**, see the rejection of ^{claim}~~claim~~ **17** and note that Kuno et al. further teaches the method of claim **17**, wherein: the lens assembly **3** is secured to the receptacle **4** by an adhesive (Column 6 lines 41-44).

As to claim **19**, see the rejection of claim **17** and note that Kuno et al. further teaches the method of claim **17**, wherein: the integrated circuit **1** is secured to a circuit board **2** before the receptacle is molded over the integrated circuit **1** (Column 7 lines 18-22).

As to claim **20**, see the rejection of claim **17** and note that Kuno et al. further teaches the method of claim **17**, wherein: the receptacle **4** includes a recessed portion for receiving the lens assembly **3** (see Figs. 1 and 4).

As to claim **21**, see the rejection of claim **20** and note that Kuno et al. further teaches the method of claim **20**, wherein: the recess portion includes a projection for fixing the distance of the lens assembly **3** from the integrated circuit **1** (see Figs. 1 and 4).

As to claim **22**, see the rejection of claim **17** and note that Kuno et al. further teaches the method of claim **17**, wherein: the camera module is affixed to a flex circuit 2 (Column 5 lines 42-47).

As to claim **23**, see the rejection of claim **17** and note that Kuno et al. further teaches the method of claim **17**, further comprising: placing a protective cover 7 over the integrated circuit 1 (see Figs. 1 and 4).

As to claim **24**, see the rejection of claim **23** and note that Kuno et al. further teaches the method of claim **23**, wherein: the step of placing the protective cover 7 over the integrated circuit 1 occurs during the step of molding a receptacle 4 over the integrated circuit 1 (see Figs. 1 and 4).

As to claim **25**, see the rejection of claim **23** and note that Kuno et al. further teaches the method of claim **23**, wherein: the protective cover is a molded spacer (see Fig. 1 and note that 7 is a spacer between the molding 4 and the integrated circuit 1).

As to claim **26**, see the rejection of claim **23** and note that Kuno et al. further teaches the method of claim **23**, wherein: the protective cover is a glass plate (Column 6 lines 5-9).

As to claim **27**, Kuno et al. teaches a camera apparatus, comprising: an integrated circuit camera apparatus having thereon a photosensitive array 1a; and a lens assembly 3 for focusing light on the photosensitive array 1a; wherein the lens assembly is rigidly affixed on the integrated circuit camera apparatus (see Figs. 1 and 4).

As to claim **28**, see the rejection of claim **27** and note that Kuno et al. further teaches the camera apparatus of claim **27**, wherein: the lens assembly 3 has a housing 4 for receiving at least one lens (see Figs. 1 and 4).

As to claim **30**, see the rejection of claim **27** and note that Kuno et al. further teaches the camera apparatus of claim **27**, wherein: the integrated circuit camera apparatus is affixed to a circuit board 2 (see Figs. 1 and 4).

As to claim **31**, see the rejection of claim **27** and note that Kuno et al. further teaches the camera apparatus of claim **27**, wherein: the integrated circuit camera apparatus is affixed to a circuit board 2; and a lens assembly receiving apparatus 4 is affixed to the circuit board 2 (see Fig. 1 and 4).

As to claim **32**, see the rejection of claim **31** and note that Kuno et al. further teaches the camera apparatus of claim **31**, wherein: the lens assembly receiving apparatus 4 is a molded receptacle (Column 8 lines 4-6).

As to claim **33**, see the rejection of claim **31** and note that Kuno et al. further teaches the camera apparatus of claim **31**, wherein: the lens assembly 3 is rigidly affixed within the lens assembly receiving apparatus 4 (see Figs. 1 and 4).

As to claim **34**, see the rejection of claim **31** and note that Kuno et al. further teaches the camera apparatus of claim **31**, wherein; the lens assembly 3 is affixed within the lens assembly receiving apparatus 4 by an adhesive (Column 6 lines 41-44).

As to claim **35**, see the rejection of claim **27** and note that Kuno et al. further teaches the camera apparatus of claim **27**, further comprising: a protective cover 7 fixed between the integrated circuit camera apparatus 1 and the lens assembly 3 (see Figs. 1 and 4).

As to claim **36**, see the rejection of claim **35** and note that Kuno et al. further teaches the camera apparatus of claim **35**, wherein: the protective cover 7 is a molded spacer (see Fig. 1 and note that 7 is a spacer between the molding 4 and the integrated circuit 1).

As to claim **37**, see the rejection of claim **35** and note that Kuno et al. further teaches the camera apparatus of claim **35**, wherein: the protective cover 7 is a glass plate (Column 6 lines 5-9).

As to claim **38**, see the rejection of claim **35** and note that Kuno et al. further teaches the camera camera apparatus of claim 35, wherein: the protective cover 7 is held in place by an overmold 4 formed over the integrated circuit camera apparatus (see Figs. 1 and 4).

As to claim **39**, Kuno et al. teaches a camera module apparatus, comprising: a camera integrated circuit chip 1; a lens 3; and means for holding the lens 4 such that the lens is positioned thereby in relation to the integrated circuit chip (see Figs. 1 and 4).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim **29** is rejected under 35 U.S.C. 103(a) as being unpatentable over US 7,009,654 (Kuno et al.) in view of US Pre-Grant Publication 2004/0109079 (Fujimoto et al.)

As to claim **29**, see the rejection of claim **27** and note that what Kuno et al. doesn't teach is the lens assembly having a housing for receiving two lenses. However, Fujimoto et al. teaches a lens assembly for an image sensor module that has a housing for receiving two lenses (see Fig. 1 and [0026]). Therefore it would have been obvious

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to one of ordinary skill in the art at the time the invention was made to have made the housing of Kuno et al. in such a fashion so as to hold two lenses as is done in the invention of Fujimoto et al. as compared to the case where a single lens is used, the use of the two lenses of Fujimoto et al. can increase the number of apertures, prevent the distortion of a captured image and provide a clear captured image.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 2003/0146998 (Doering et al.). US 7,122,787 (Nishizawa). 2003/0137595 (Takachi). US 2004/0189853 (Takeuchi et al.).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dillon Durnford-Geszvain whose telephone number is (571) 272-2829. The examiner can normally be reached on Monday through Friday 8 am to 5 pm.

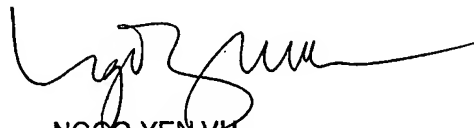
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ngoc-Yen Vu can be reached on (571) 272-7320. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Dillon Durnford-Geszvain

11/20/2006



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SUPERVISORY PATENT EXAMINER